QUANTA

VOLUME 2 ISSUE 10   **NOVEMBER 1985**

Contents

INFORMATION ON THE GROUP

Membership of QUANTA (QL Users and Tinkerers Association) is by subscription to QUANTA, the group's newsletter, which is published monthly. Membership details are obtainable from the secretary. Membership of the group is open to anyone with an interest in the Sinclair QL microcomputer.

Members requiring assistance with problems related to the QL may write to or phone the secretary. An attempt will be made to put them in touch with a member who can help with the problem.

Workshops will be arranged from time to time in various parts of the country.

The group maintains a software library. Most of the programmes are free to members. A library list will be published from time to time. Programs are obtainable from the sub-librarians.

A list of members in any particular area is obtainable from the secretary.

Please send all contributions to the newsletter to the editor.

Chairman and   Secretary and
Newsletter Editor   Newsletter Publisher

Leon Heller,   Brian Pain,
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Sinclair, QL, QDOS, QLUB and ZX Microdrive are trade marks of Sinclair Research Ltd.

Quill, Abacus, Archive and Easel are trade marks of Psion Ltd.

NOTES FOR CONTRIBUTORS TO QUANTA

Quill files on Microdrive cartridge or 40 track disk (single or double sided), are preferred. Cartridges and disks will be returned ASAP.

Written contributions are acceptable.

Short programmes can be included, but lengthy programmes should be placed in the library, and a description sent in for the newsletter.

EDITORIAL

We unfortunately had to cancel the Milton Keynes November workshop, due to the poor response. We will be organising a small number of one day meetings in different parts of the country over the next few months.

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Applications to join the group have increased considerably in the last couple of weeks, and must be as a result of the QUANTA page in QL World. My ramblings must be having some effect, as no-one asks for any information about the group, or an application form: they just send in a cheque.

The group will have to register under the Data Protection Act. I've been through the relevant documentation quite thoroughly, and registration will be required under several categories. Any members who keep information about individuals on their computer will also have to register. If you don't, it might be a criminal offence. The documents are available from main post offices.

I have been sent review copies of the following software:-

    TDI FORTRAN and Pascal (p-system).
    Superplant shrub data bank and planner.
    Quality Leader Software QL Crossword.

Would any members willing to review these items please give me a ring. You get to keep the software, of course.

Ron Dwight from Finland was in the UK recently, and travelled up to MK one evening to see Brian and me. It is always nice to see someone in the flesh when the only interaction previously has been via the phone or letter.

Wolfgang Göller asks that members sending letters write legibly. He received a letter from someone (in India, apparently) and couldn't read the name and address, so he just cut it out and pasted it on an envelope, with a note inside asking for a translation! I sometimes have the same problem. Incidentally, the SuperBASIC fast load programmes mentioned by Wolfgang in the last issue have been considerably improved and the new versions have been sent to the library.

Toshiba are going into volume production of their 1 Mbit DRAM device, and hope to be producing 1 million chips a year by next April. Several other Japanese manufacturers are also producing 1 Mbit RAMs, so it is likely to be about the same price as the 256K devices are at present (under £3) before long. A company called Sumitomo have produced an electron beam etching system that it is intended for the production of 4 Mbit RAMs. Just think, 4 Mbytes with eight chips!

I should shortly have a beta test copy of Simon Goodwin's Supercharge SuperBASIC compiler, to be marketed by Digital Precision. I already have the documentation (all 100 pages of it!), and it looks like a very interesting product, for those users who find SuperBASIC too slow, but don't want to learn C or Pascal. I mistakenly put Simon's phone number in the piece about the compiler in the last issue. Could members PLEASE not use that number, but address enquiries to Digital Precision. A full review of the product will be in the next issue.

Leon Heller

MEMBERS' LETTERS

I have a 640K/twin 3.5" disk Medic expanded QL. I've had incredible problems with Medic which would take pages to explain. Suffice it to say I am on my third system (now cased). Of the software packages, the only useful one issued is the extract from the Tebby toolkit - there are six major packages missing. It also still corrupts data - the worst being missing, corrupted or incomplete headers! Eidersoft and Tony Tebby (according to QL User) now throw doubts on the 1/2 height Mitsubishi drives. Can anyone help? I gather Silicon Express is offering to exchange faulty Medic systems for their product, standing the cost of waiting for the Medic refund themselves! I wish Eidersoft would do the same. Their system is very like Medic's, although their 512K RAM is on board, with the slower access times. They do use the same Tebby operating system (as probably all do) so software, commands and disks are compatible, but it uses the supposedly better 1/3 height Mitsubishi 3.5" drives.

Leon Heller mentions an Archive "alter" fault. I had a similar problem within one week of receiving the new packages. It also involved a disordering of files which caused my programmes to fail (the order key disappeared!). Psion produced a 2.1 version (300 bytes longer programme which I have) which has not been released by Sinclair as far as I know. The Psion patch, unless they have changed it from the one published in May (and also used by Medic in m_transfer), does not work with my problem.

Incidentally, I use my two QLs for all my business needs, including books and VAT returns. I also run, professionally, a number of mailing lists. I also market the "Computer Cleaner" power supply filters featured in the current issue of QL World. I would be happy to offer these at 5% discount to QUANTA members. The Commodore User Group (Jim Kennedy) tested them and their conclusion was that "these Computer Cleaners work."

Tony Firshman,
43, Rhyl Street,
London NW5 3HB.

/* Tony Tebby mentioned the problem with the Mitsubishi 3.5" drives to me, also. MicroPeripherals have also had problems with the same drives, I believe. LFH */

—------------------

I have just joined QUANTA and notice mention of the ordering/lost record problem in Archive, and John Downie's experience. I had exactly the same experience, but in <u>March</u>. Psion solved the problem in the same way by giving me V2.01. If, what John is saying, is true then Psion are lying when they say "someone should have told us by now" - Mustak Shakes is well aware of the problem. How about publishing a consolidated bug list - I have masses of entries!

You also have a review of the Medic system. Well, my experience with Medic is disastrous. I am on my third system and I still get data errors, the worst being major corruption and sometimes complete loss of the header. I have had no written response from Medic, and no reply to my recent letter offering them an ultimatum for return of my money. They have not yet written six major pieces of software which they have advertised for five months and haven't refunded my expenses in returning faulty units. These last two items have resulted in the ASA finding against their advertising. In addition, I didn't get a case for three months and they took 10 weeks to deliver. I have heard from two sources that the 1/2 height Mitsubishi drives they use are not reliable. Eidersoft use the more reliable 1/3 height drives. Incidentally, Eidersoft plan to release a 640K internal expansion that does not need additional power (but of course is slower). I think, rather than recommend Medic, members should be warned against buying until the company has sorted itself out.

Tony Firshman,
43, Rhyl Street,
London NW5 3HE.

—-----------------

Here is a solution to Wolfgang Lenerz's problem concerning rep$. The reason that the QL replies with "bad line" when PRINT REP$ is entered is because REP is an abbreviation for REPeat. This means that the QL reads rep$ as REPeat$. The same can be said about rem$, sel$ and proc$.

Simon Edwards,
122, Ffordd Pen-y-maes,
Holywell,
Clwyd. CHB 7BG.

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What is the chance of your 15% of membership outside the UK getting together to change Sinclair's throat-cutting policy not to support us directly? I paid to join QLUB, but they refuse to send the magazines overseas, because of some trade agreement that I didn't sign!

If anyone is interested, I have an Archive programme for flashcard foreign language learning, and a BASIC programme to convert Sinclair BASIC to SuperBASIC.

D.R. Newman,
Kenyatta University,
Appropriate Technology Centre for Education and Research,
P.O. Box 43844,
Nairobi,
Kenya.

—-----------------

Thanks for printing my letter in the October issue (page 10, Problem Section). However, I was dismayed to note that the programme was not as I typed it. Line 170 should have read:-

170 FILL#8,1: INK#8,RND(0 TO 7): CIRCLE#8,RND(0 TO 149),RND(0 TO 100), RND(0 TO 50),RND,RND(0 TO (2*PI)): FILL#8,0

It appears that JS ROMs vectored utilities include a test for the error return, whereas JM version ROMs do not. I found that a programme, printed recently in Pop. Computing Weekly 5 - 11 September, by Alan Turnbull, did not work. On disassembly, I found, after some effort with Toolkit, that TST.L was required after the call to UT_MTEXT and UT_ MINT. The technical manual implies that later issues of the ROM will include the test.

John Moody,
75, Harborne Gardens,
Westend,
Southhampton,
Hants. SO3 3LZ.

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I am a Yugoslav physicist who studied in England and now lives in France. I travel a lot, so I bought my QLs as small transportable machines that I can easily plug into UK, German, Swedish, Yugoslav or French TV sets (Peritel is effectively RGB). However, Sinclair spoilt it all by releasing somewhat different machines in different countries. I can service my French QL only in France and the British one only in Britain. In two years time I will probably move to the States and the US QL is again somewhat different. Now I understand why people prefer IBM PC or Apple Ile or CP/M systems
.

Only a few thousand QLs have been sold in France, and its future is very bleak. The Amstrad 664 is now a popular choice, whilst more serious buyers wait for the Atari ST or Amiga. Still, here in Grenoble, we have developed some powerful scientific (graphics) software and are improving some Spectrum programmes. The Geophysics Lab. of Grenoble University bought 50 QLs to prepare a network of stations for seismic surveys. Lots of interesting software will come out of this project; I'll send some of it to the library in due course. Incidentally, does any member have any QL software that deals with matrices? If so, please contact me.

I enjoy a lot my "QUANTA friendships": Kevin Bean (Sultanate of Oman!) has sent me detailed instructions on how to install my Brother EP-44 printer and Allan Bartram of Leeds was extremely helpful too. I will soon contact some other members, so beware!

Davor Pavuna,
427, Chemin du Mas,
38330 St. Ismier,
France.

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How does a person with no previous knowledge of machine code programming learn the reputedly, comparatively easy task of programming the MC68008? Well, perhaps not quite just a simple question.

I have most of the relevant publications, and although the wide variety of approach, opinion and typographical errors should provide me with a powerful interpreter, the initial, trivial questions that occur in overwhelming numbers are literally ignored. However, after some thought I think I may have an answer.

I have just obtained a Q-CON module which has solved my communications problem and I have subscribed to MicroLink PSS (Data Publications Ltd.) in association with Telecom Gold. It has occurred to me that a Closed (?) User Group with a special interest in machine code Q and A - may go some way towards supplying extensive feedback on the subject.

If anyone within QUANTA thinks this a worthwhile avenue for discussion, please write or contact me through electronic mail box number MAG70035.

I am anxious to dispell rumours that the QL has somehow failed to deliver the goods and add to it my own opinion that from the M/C point of view, it represents a cheap introduction to a very powerful "family" processor. It, is from this that I question the "closed" aspect of the "User Group".

Ian A. Crawford,
11, Rufford Road,
Whalley Road,
Manchester M16 BAE.

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This letter will differ from most, in that I wish to address the problems of the QL in a different vein.

Here in Switzerland, the QL is nothing more than a strange black box. The sales people have very little to say about this machine, and the only software for it is Chess and an assembler. The QL doesn't even come close to other manufacturers' support and software offerings. Sir Clive has underestimated the intelligence of everyone out here in the real world. I feel I have thrown my money out of the window and might as well give my QL to a school and buy a PC clone. It is no use trying to deny it: this is a hacker's machine. Only, I am past the hacking stage and expect support from a computer manufacturer. Sinclair seems to think that all of Europe will break down walls to get to his machine. He had better watch out for the bigger companies who are going to roll him down in their fight for the market. For example, Atari and Commodore are starting to sell machines which are years ahead of the QL. No, the QL was neat when it was on the drawing board ages ago, but the computer buyer has grown up now and expects something useful for his money. The QL is useless and everyone here on the continent has always thought so.

Steve Salgo,
Engweg 1,
8006 Zurich,
Switzerland.

/". Most of the problems you mention are really the fault of the Swiss importer, I believe, and not Sinclair. Plenty of software is available in the UK, why don't they import it? What evidence is there that "everyone on the continent" thinks that the QL is useless? LFH */

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On page 24 of the October issue of QL World mention is made of "the QUANTA section" in Micronet 800. Although a subscriber to QUANTA from the beginning I do not recall reading about QUANTA's involvement with Micronet.

However if the letters to the Editor and the library could be accessed in this way I would see some point in buying a modem.

There is an industry problem concerning the early issue of software and the rights of early customers.

When Computer One advertised their Pascal, Forth and Assembler late last year I ordered all three. The software was quite good although there were bugs and the documentation was a bit skimped.

This year Computer One have issued version 2 of the software together with a new Monitor. Old customers were offered an upgrade at a further cost that was a significant fraction of the original price. I felt obligated to have the new versions with the bugs removed. What rankled most, though, was the the Monitor was offered at a discount if bought with the Assembler, an offer that was refused to old customers even those that were purchasing the upgrade.

I imagine that early customers are very important to companies that are trying to establish themselves and their products. Of course the customers themselves are taking a gamble in buying unknown software and are expressing a high degree of confidence in the supplier. By being an early customer of Computer One's I have paid considerably more for the same software as someone buying now.

The moral appears to be: "do not buy anyone's software during the first year that it is available". If you do you will have to pay again when the supplier has corrected his faults.

I believe that the software industry has a moral obligation to correct their own errors within, say, one year of its release. They know that it cannot have been fully tested and is bound to contain some bugs. They should do this at no cost, postage excepted, in loyalty to their early customers and the gamble they took in buying their unproven product.

I have no other criticism of Computer One and do not suggest that they act differently from other suppliers. They have been sent a copy of this letter in case they wish an answer to be printed in the same issue of QUANTA

.

Mike Stevens,
6, Bridewell Close,
Buntingford.
Herts. 5G9 9AY.

/* Micronet started a QL section, to which I used to contribute a lot of material - news about the group and software and hardware reviews. They also wanted to make some of the software library available. They abandoned the project when it looked as though it wouldn't be viable because of the poor sales figures for the QL. Now sales are going quite well they might reconsider their decision in a few months, I feel. LFH */

—------------------

In response to Mr Stevens letter, there are several points I would like to raise in defence of Computer One:-

1)   Mr Stevens has not, in fact, paid considerably more for his software as both Pascal and Forth have increased in price by £10 since their initial launch (the exact cost of the upgrades).

2)   We provide upgrades as a service to our early customers, and although we would like to offer this as a free service this is not financially viable. We do, however, run this service at no profit to ourselves. If you take into account the costs of Microdrives, typeset manuals, postage and packing and admin. we feel £10 is a reasonable sum for an upgrade (£6 for assembler which does not include a complete manual).

3)   Our upgrades are upgraded versions of the programmes and not merely bug fixes. Bug fixes have always been available free on request and for this reason all our manuals carry a software problem report sheet. For example, the upgraded version of Pascal includes a "make job" menu option which allows compiled Pascal programmes to be made into QDOS jobs. Also, several new facilities were added to the editor, including cut and paste and merge file options.

4)   We see the Assembler/Monitor offer in the same light as a "buy two - get one free" type offer in a supermarket where the discount is offered as an incentive and cannot reasonably be taken six months after the initial purchase
.

I hope that these comments answer Mr Stevens criticisms and I can only say that in offering upgrades (which not all companies do) we are doing our best to reward the loyalty of our early customers.

Paul Ives,
Computer One.

—----------------

I have an Anadex 8000 printer with serial and parallel interface built-in, but it has two needles in the print head missing. It works OK apart from this, and a manual is included.

It is free to any worthy cause or a swap for QL bits from a group member. If a new head is needed then it is £40 worth of Epson.

Dennis Briggs,
Tel: (0952) 55895.

—----------------

In Spain the following packages are available:-

Master-Comp	- billing, with support for disk
Alsicont	- bookkeeping
Cambialsi	- bill of exchange
Alsimail	- mailing
Comercial-6	- billing, stocks, budgets, orders and mailing
QL-Medecina	- Vade mecum.

All are in Spanish, of course.

Serafin Yanguas,
C/ Baltazar Gracian No. 21 - Centro,
Zaragoza,
5005 Zaragoza,
Spain.

PROBLEM SECTION

In Quill, I would like to be able to:
1)   use Fl for another function, e.g. italics on/off (as subscripts rarely have to be used in word-processing). Incidentally, superscript is needed for, say, Elizabethan text transcription.

2)   have the default screen layout in the "prompt" format, thereby releasing F2 for another function.

Also, is there any way (or can one be included in, perhaps, any new "expert" version of Quill) text composition can be achieved in double columns, for indexes, for instance?

J. W. M. Stone,
15, Rosamund Road,
Oxford OX2 8NU.

Tel: Oxford 59808.

/* I don't think that it is possible to alter the functions of Fl and F2 without a great deal

 of work. Psientific Software's Keydefine utility could perhaps be used, but two keys would need to be pressed each time.

Columnar printing could be done using a programme written in SuperBASIC to print out a Quill file. A programme written in C to do this is available from the C Users Group in the States, which could be compiled for the QL. Wordstar can format text in columns, by the way. LFH */

—------------------

I have a QL with the CST disk interface. I cannot run Microdeal's Land of Havoc with the interface plugged in. This is the case even if I try to run the game off the Microdrives. Does anyone else have this problem?

Richard Man,
48H, Beacon Village,
Burlington MA 0183,
USA.

/* Microdeal put me on to Steve Back, who wrote Land of Havoc, and he told me that because of the way it is written, it won't work with some of the disk interfaces on the market. To get sufficient speed he had to bypass the operating system completely, and interact directly with the QL hardware. Later versions of his QL, software warn of this problem. He develops his QL games on a VAX, by the way. LFH */

—------------------

I have connected an Amstrad colour monitor to my QL JM) but the display is severely distorted. Can anyone help?

 Fred N. Green,
"Villa Verde",
 Apartado 313,
 Puerto Romano 1,
 Estepona,
 Malaga,
 Spain.

—------------------

Has anyone developed a screen dump programme for a Juki colour printer?

Nicholas Golby,
53, Taybor Road,
Hammersmith,
London W6.
01-748 3859

—------------------

I have a Cub monitor and a FW-1080A printer. Originally I had the three units powered off a mains extension with an integral switch. If I switched everything on at once the Cub displayed a lot of garbage at the bottom of the screen, instead of the FI/F2 option. Unplugging and replacing either the RGB cable or the QL power cable results in a perfect display. I therefore have to ensure that my monitor is powered up before the QL. I would like to keep the QL on permanently, but under these circumstaces I cannot. Any ideas?

Can anyone help me to get Quill and Archive to print German umlaut's on my Canon PW-1080A. The inputs are in order and the screen is correct, but when it comes to put Quill to paper, "er ist falsch".

P.C. Munday,
Elektra Strasse 7a,
8000 Muenchen 81,
West Germany.

/* Some of the early QL monitors from Microvitec were faulty. This might be the cause of your problem. Assuming the monitor is OK, putting a mains filter between the QL power supply and the mains extension will probably stop the current surge when the monitor is switched on from affecting the QL. LFR */

—------------------

Can a Brother HR-1 be made to underline with Quill? Control codes exist for "backspace" or "ignore next forward space", but the correct sequence would need to be toggled?

Can a WS2000 modem fitted with an auto answer/dial board and software control ROM be made to work with Q-CON? Q-CALL apparently will not work with the WS2000 and Q-MOD is limited
.
Ian A. Crawford,
11, Rufford Road,
Whalley Range,
Manchester M16 8AE.

—------------------

I have the facilities at work to do a lot of hardware and software meddling, and thought of (1) replacing the 64K RAMs with 256K devices, and (2) replacing the 128K ROM with a larger 256K EPROM.

Has anyone done this already? If so, I would be very grateful if they will get in touch with me. If not, I will try it myself.

I will of course make the results, positive or negative, available to QUANTA. Both alterations will probably void any guarantee, so are not recommended until after the guarantee period has expired. This does not bother me, as I get no support from either the Norwegian dealer (Viking Data) or Sinclair in England. The second alteration does not adhere to the memory address layout chosen by Sinclair (why did they choose so little on-board ROM?), and may cause problems if used together with an expansion ROM cartridge.

Torbjorn Sund,
Global Data A/S,
PO Box 930,
Kloverveien 17,
N-9001 Tromso,
Norway.

—-----------------

I am trying to expand my machine to 512K internal RAM. So far I have had no luck with it. The only thing I can do with it is to poke values to it, and peek them back again. Although I have tried building several small circuits to get it to work, I've had no success. Can anybody help?

F.J. Meijer,
Van Bourgondielaan 38,
4351 NS VEERE,
The Netherlands.

/* You have to use some additional memory decoding circuitry. This might be the cause of the problem. LFH */

DIY CURE OF MICRODRIVE FAULT

Almost exactly at the end of the one year warranty period, Microdrive 1 of my recently replaced machine started emitting a harsh rubbing noise, giving me the impression that it was about to seize up at any moment. As I had returned machines to Sinclair four times previously, I decided that on this occasion I would try and repair it myself.

The first requirement is to be able to operate the Microdrive continuously without a cartridge. This can be done quite easily with the JS version, using the error trapping to prevent the "not found" message and interrupt. The programme uses recursion to command the Microdrive to load repeatedly.

```
100 when err: continue
110 loa
120 def proc loa
130 load mdvl_a
140 loa
150 end def
```

When this programme is executed, the drive motor will run continuously without a cartridge and can be stopped by pressing CTRL and SPACE. The next step is to

run the drive with the keyboard removed, which can be done without any problems as there are long ribbon connectors enabling the keyboard to be placed on the opposite side to the Microdrives.

I then discovered that the drive motor spindle has a rubber wheel on top of a hard plastic circular spacer which rests on the motor housing. However, Microdrive 2 had a definite gap between the two disks, whereas Microdrive 1 had none. I therefore pulled up the rubber wheel to give a similar gap on Microdrive 1, and found on running the programme that the noise had gone. This is because the plastic spacer is ribbed and is a loose fit on the spindle so that it does not normally rotate, but if the two parts are in contact, then the hard plastic spacer is rotated against the motor housing, causing a harsh rubbing noise.

As this state of affairs is only prevented by the tight fit of the rubber wheel on the spindle, I feel it is quite possible that other members may have had the same problem and hope that this letter may be of some assistance to them.

A.M. Coppard,
138, Forest Drive,
Chelmsford CM1 2TT.
Tel: (0245) 84270

/* The clearance between the rubber wheel and the spacer should be 0.25mm - 0.5mm, according to the service manual. LFH */

MORE SPACE ON QUILL CARTRIDGE

I have found that I can delete from my copied Quill cartridge the following files: QUILL HOB, INSTALL BAS, INSTALL DAT and CONVERT HAS, and still retain all my requirements. I have, of course, installed a PRINTER DAT first. If I need a different one I have it installed on a different cartridge.

By this means I have liberated no less than 71 sectors, or approximately 1/3 of a cartridge's worth of RAM.

J.W.M. Stone,
15, Rosamund Road,
Oxford OX2 BNU.
Tel: Oxford 59808.

"ILLUSTRATING SUPERBASIC ON THE SINCLAIR QL" BY DONALD ALCOCK

One of the best books on programming in BASIC, in my opinion, and that of most reviewers, was Donald Alcock's "Illustrating BASIC", published some years ago. I always recommended it to newcomers to computing, on the introductory courses I used to run. The book was unusual, in that it was handwritten, not typeset in the usual manner. I was therefore delighted when Mr. Alcock came to our stand at the recent PCW show, and informed me that he'd written a similar book about SuperBASIC on the QL, and said he'd get me a review copy. He also joined the group. Like the earlier book, the new one is completely handwritten, and has a plastic ring binding allowing it to be laid flat, which will help considerably when typing out the numerous examples. The book is very wide-ranging, starting with fundamental ideas

for someone who has never seen a computer before, and progressing, via easy stages, to advanced concepts like stacks, directed graphs, linked lists, and sorting techniques. Each chapter ends with some suggested exercises, which usually require the reader to expand on the concepts described earlier in the chapter. Mr. Alcock's writing style is excellent, and there are occasional touches of humour. I particularly liked the little drawings of "creepy-crawlies" to emphasise the location of a bug. Good programming techniques, such as the extensive use of procedures and functions to produce clear, modular, well-structured programmes, are emphasised. Many of the programmes contain useful procedures and functions that readers can incorporate in their own programmes, and/or modify for their own use, which could save the beginner, especially, a considerable amount of time.

I have a minor criticism. There is a tendency to use statements of the form

        n = n DIV base
        IF NOT n THEN RETurn a$

whereas I feel that

        IF n <> 0 THEN RETurn a$

would be clearer, if less concise.

A good index is provided and a very useful quick reference section with the definitions of the keywords described using a simplified BNF (Backus-Maur form) notation. Another nice touch was an appendix listing the bugs and idiosyncrasies of SuperBASIC, some of which were new to me. All the programmes in the book are available on Microdrive cartridge from the publisher, at £7.20.

The book has 182 pages and is good value at £5.95. It's published by the Cambridge University Press. Both beginners and more experienced users will find it very useful. I recommend it.

Leon Heller

DISASSEMBLER

I have just become a member, and read Wolfgang Göller's letter about a problem when disassembling Quill, in the August issue. I have a disassembler in the works, which should, when finished, solve his problem.

The cause of the problem is that the disassembler "gets out of sync". At address $48 there is a table of data (see instruction LEA.L L_00048,A0 at $22), which the disassembler (erroneously?) interprets as instructions. By chance, the data consitutes legal instructions of length 4 bytes, and as a result the MOVEM instruction at $50 is "swallowed up" as the second word in MOVE.L.

To produce correct code, the disassembler must "know" that disassembly should be "broken" and resumed at $5C. My disassembler will do that, based on the BSR L0005C encountered above.

It seems there is a disassembler in the QUANTA library. If mine can complement that one, I'll submit it to the library.

Torbjorn Sund,
c/o Global Data A/S,
P.O. Box 930,
N-9001 Tromso,
Norway.

/* Wolfgang sent me a printout produced by Torbjorn's disassembler, and I was interested to see that the hex object code is included as comments. LFH */

NEW TEXT EDITOR FROM GST

GST have developed a text editor to go with their QC C compiler. Called "QED', it is written in QC.

Unlike most other text editors for the QL, QED can handle very large files, and is only limited by Microdrive or disk capacity. All the usual editing functions are provided, and the four pages of documentation supplied are quite superfluous, as the programme has built-in help facilities. It is extremely fast in operation, even with large files.

QED is not restricted to use with QC, of course, and I now use it with Lattice C and Metacomco's assembler, in preference to Metacomco's editor, which is very slow at times, and rather awkward when moving blocks of text around in a file.

Because of its speed, and ability to handle large files, QED (although it isn't a word processor as such) is much more suitable than Quill for serious work such as writing a book. Publishers prefer unjustified text, and double spacing and paragraphing could easily be achieved by printing the files with a simple programme, by incorporating formatting information in the text.

QED is now supplied as part of the QC package, together with an enhanced version of the compile utility. Existing users can upgrade for £4.95. I suggested to GST that it might be a good idea to sell QED on its own. They agreed to this, and it is available for £24.95.

Leon Heller

AYLESBURY QL USER GROUP

The first meeting of our local user group was held on 9 October. It was a lively evening, full of discussion on applications, machine code, and SuperBASIC, plus several programme demonstrations on the QL.

If you live reasonably close to Aylesbury, and would like to join us, please contact me on Aylesbury (0296) 630867.

David Nowotnik,
12, Long Plough,
Aston Clinton,
Aylesbury,
Bucks. HP22 5HA.

USING QL C

If you use the getch function, note the comment on page 118 of the manual that it doesn't return end of file or error status. This caused me to waste a lot of time trying to get the binary tree example in K and R to work. The K and R getch function DOES return the appropriate EOF character, and should be used, together with their ungetch, instead of the functions provided by QL C, if you want programmes that check for end of file to work properly.

The QL C manual is a bit vague about the meaning of the term "module". I assumed that if one created one's own library, by compiling a file containing several functions, and referred to the library within the linker control file, and then called a single library function, from another programme, only the code pertaining to that function would be linked. However, Roy Barber has found that the whole library appears to be incorporated as the programme is linked. The GST QC manual states that a module is a group of subroutines compiled together, so it appears that the functions should be compiled separately, and then concatenated to form a library file, if selective linking is required. Perhaps this problem can be overcome by the development of a library manager programme.

Leon Heller

MOTOROLA PROGRAMMING POCKET REFERENCE GUIDE

A very useful pocket-sized MC68000 / MC68008 programming guide has been produced by Motorola. It is a small 124 page booklet with all the information needed by assembly language programmers.

Leon Heller

EXTRA FUNCTIONS IN QL C (NOT DOCUMENTED)

error = io_fbyte(chanid, time, cptr)	fetch a byte from specified channel.
error = io_sbyte(chanid, time, c)	sends a byte to specified channel.
error = io_pend(chanid, time)	checks for pending input.
error = sd_cure(chanid, time)	enables cursor.
error = sd curs(chanid, time)	suppress the cursor.
error = sd_pos(chanid, time, col, row)	position the cursor.
error = sd_tab(chanid, time, col)	tab the cursor.

error = sd_nl(chanid, time)	move cursor to new line.
error = sd_pcol(chanid, time)	move cursor to previous line.
error = sd_ncol(chanid, time)	move cursor to next column.
error = sd_prow(chanid, time)	move cursor to previous row.
error - sd_nrow(chanid, time)	move cursor to next row.
error - sd_pixp(chanid, time, xcol, xrow)	position cursor using pixel coordinates.

```
int error;
Char *chanid;
int time;
Char*cptr;
char c;
int col;
int row;
int xcol;
int xrow;
```

Metacomco

QL C VERSION 3.01 KNOWN BUGS

LC1	-d option	resultant object file is unacceptable to linker
LC1	-b option	resultant programme will not run
Register variables		do not work properly
>listfile option		file must already exist
Backward gotos		do not always work
exit function		does not always hand back control to SuperBASIC

Metacomco

SAVING LONG DOCUMENTS FROM QUILL

Just before version 2 of Quill was released an improvement was made to speed up the saving of documents. Unfortunately, this had the side effect of introducing a bug which gives the error message "I/O incomplete" when saving long documents. The bug takes effect when the length of the document exceeds 32K - which generally would be the case with 10-20 pages in Quill.

Many Quill users are quite happy to keep within the 32K document limit. However, if you are unhappy with this, we have produced a patch which removes the above mentioned "improvement" and will permanently modify your Quill programme.

To apply the patch, type in the following SuperBASIC programme. Check it carefully, especially the numbers in lines 40 and 50, and save it just in case. Place a Microdrive cartridge with a backup copy of Quill in the left hand drive and type "run" to apply the patch. If it fails for any reason, reset your QL, and check the programme again. The programme checks the code to be patched and so you are in no danger of patching the wrong programme or the wrong version of Quill.

```
10 a=RESPR(55*1024)
20 b=15584+a
30 PRINT "Loading...":LBYTES mdv1_quill,a
```

```
40 IF PEEK_W (b)<>20154 OR PEEK_W(b+2)<>2192 THEN GOTO 80
50 POKE_W b,20081: POKE_W b+2,20081
60 PRINT "Saving..." : DELETE mdv1_quill : SEXEC mdv1_quill,a,
     51760,1280
70 PRINT "Finished" : STOP
80 PRINT "Wrong version - this patch only works on Quill 2.0"
```

Psion Software Support Ltd.

CANNOT CLOSE AN ARCHIVE FILE - ERROR INCOMPLETE I/O

If your data file becomes larger than 32K Archive will fail to save it when you close the file. This SuperBASIC patch will correct this.

```
100 INPUT "What device is Archive on? eg mdv1 >"; dev$
110 a = RESPR(52*1024)
120 b = 13054 + a
130 PRINT "Loading..." : LBYTES dev$ &"archive",a
140 IF PEEK _W (b)<>20154 OR PEEK_W(b+2) <> 2774 THEN GOTO
180
150 POKE_ W b,20081 : POKE_W b+2,20081
160  PRINT  "Saving..."  :  DELETE  dev$&"_archive"  :  SEXEC  dev$  &
"archive",a,51474,1280
170 PRINT "Finished" : STOP
180 PRINT "Wrong version - this patch only works on Archive 2"
```

Psion Software Support Ltd.

ORDERED ARCHIVE DATA FILES DO NOT APPEAR TO MAINTAIN THE CORRECT ORDER

If you are using an ordered data file and LOCATE or NEXT do not work, then type in this short SuperBASIC programme. Place Archive version 2 in mdv1_ and run the programme.

You may wish to save the programme in case you need to run it again.

```
10 a = RESPR(51*1024)
20 b = 2176+12+a
30 PRINT "Loading..." : LBYTES mdv1_archive,a
40 IF PEEK_ W (b) <> 4144 OR PEEK_W (b+2) <>  THEN GOTO 80
50 POKE_W (b+2),4096
60 PRINT "Saving..." : DELETE mdv1_archive : SEXEC mdv1_archive,a,
     51540,1280
70 PRINT "Finished" : STOP
80 PRINT "Wrong version - this patch only works on Archive 2.0"
```

Another problem you may face is if you use ALTER and UPDATE within a WHILE… ENDWHILE loop. The pointer will always get positioned to the first record, so that NEXT will not work in the correct manner. However, this is easily countered: simply record your position prior to update and then reset the pointer to that position, i.e.:-

```
let ptr = recnum()
```

update
position ptr

Psion Software Support Ltd.
JS ROMS AND OTHER SPARES

As mentioned in QUANTA a couple of issues ago, I can obtain QL spares (JS ROMs at £20) from CPC (official Sinclair spares stockists) for members at CPC's catalogue trade price, plus a small handling charge. Plugs and connectors external to the machine are not available from CPC. Please ring me for price and availability information.

Dennis Briggs.
Tel: (0952) 55895.

NEW KEYWORDS ON THE JS QL

I own the JS version of the QL and can verify that the rumours of the new keywords are true. There are over 20 of them. The new words are mostly concerned with error-trapping. Below is a list of "error variables' and the errors which they correspond to.

ERR_NC	not complete	ERR_BN	bad name
ERR_NJ	invalid job	ERR_IU	in use
ERR_OM	out of memory	ERR_TE	xmit error
ERR_OR	out of range	ERR-RO	read only
ERR_BO	buffer open	ERR_BL	bad line
ERR_NO	channel not open	ERR_OV	overflow
ERR_XP	error in expression	ERR_NF	not found
ERR_EX	already exists	ERR_DF	drive full
ERR_FF	format failed	ERR_EF	end of file
ERR_NI	not implemented	ERR_BP	bad perameter
ERR_FE	bad/changed medium		

The variable becomes 1 when the respective error occurs, but reverts back to 0 when a different error is encountered.
There is a REPORT command which reports the last error to occur. The variable ERLIN holds the line number where the last error occurred and ERNUM returns the number of the error.

It should be noted that ERNUM returns a negative number, but other than that they correspond to those printed in the User Guide.

There is a WHEN ... END command which can be used for error-trapping e.g.

```
10 WHEN ERRor
20 REPORT
30   PRINT "At line ";ERLIN
40 END WHEN
```

There are two other commands available, but I do not seem to be able to implement them. These are TRA and MISTake. I would be grateful if any members

Simon Edwards,
122, Ffordd Pen-y-maes,
Holywell,
Clwyd. CH8 7BG.

USUS (UK) LTD. CONFERENCE

USUS (UK) Ltd., the UCSD p-System Users' Society, is holding a conference on the 12-14 December at the Oxford Moat House. Further details from Derek Jones on Farnborough (0252) 520667.

FOR SALE

Psion Chess	£11
Talent West	£11
Simulation Techniques on the QL (book)	£4
Introduction to SuperBASIC (book)	£4
Advanced programming on the QL (book)	£4
or all the above	£30

Nigel Kennett,
Tel: Leeds (0532) 504431

DISCOUNTS

The following discounts are available to members of QUANTA. The label from the envelope in which you received the latest issue of the newsletter should accompany your order, which must go direct to the company, not the retailer.

GST	10% off all QL Software
Metacomco	20% off all QL Software (except QL C)
Digital Precision	10% off all QL Software

Leon Heller

EXTRA MEMORY

With reference to Dr. Heckmatt's letter (QUANTA 2.8) I can only assume that he is using the memory expansion with Quill version 1. I have the Simplex 256K expansion fitted and have had few problems apart from the occasional keyboard lockout which happened with about the same frequency before. I tried testing out Dr. Heckmatt's times using Quill version 2 by merging several documents so that I had 8300 words in one document. This I then saved and the Microdrive took 3 minutes 10 seconds. I then reset the machine, obtained a directory of the cartridge and found that the document occupied approximately 75K of storage, reloaded Quill and loaded the document with a load time of 55 seconds.

Also Dr. Heckmatt refers to long backup times. Since with a 128K memory expansion fitted to his machine documents can exceed the space available for them on Microdrive, I cannot see why this command is necessary, since in effect as you copy from drive to drive you at least double the time taken over a simple Save.

Perhaps he and others do not appreciate that you can also Load and Save documents from and to mdv1 simply by over-writing the default options.

One point one does notice with Quill when using extra memory and a large document is the slow way in which the COPY and ERASE commands work if one wishes to make large alterations. It is a pity that Psion didn't allow paragraph jumps and a modified GOTO command to be used with these since at present it is almost quicker to export and import as required into a new document.

Whist writing I must offer a word of praise for the backup that Ron Dwight provides as regards up-dates/corrections relating to his programmes. I purchased the toolkit under the special offer to QUANTA members and have found it most useful (particularly the machine code sort that is so fast that when handling large arrays it is quicker to sort and make a binary search rather than the standard serial search) and twice since then he has written to point out small errors, none of which I had noticed, providing either, corrections or offering replacement procedures (with additions by way of recompense for any inconvenience suffered).

In particular he has now provided an addition to the sort procedure which allows for part sorting of string arrays utilising a tag sort, considerably enhancing the usefulness of this procedure.

Incidentally Ron quite correctly protects his software against copying using the-same system as Psion use for "QL-Chess" and Talent for "Cartridge Doctor". The cartridge can be backed up but before any programme can run it tests for the presence of the original cartridge in Microdrive 2. So long as one sector of-the original cartridge can be read the programme will run. Perhaps all the software houses (including HiSoft) could adopt this as the standard form of protection.

Keep up the good work.

J. R. Catt,
6, St. Anne's Close,
Badger Farm,
Winchester,
Hants. SO22 4LQ
Winchester 60973

LIBRARY CORNER

The library now runs to approximately 350 programmes and since taking over as librarian I have been looking for ways to improve the service to members. There has been an increase in members with disk systems and we have now appointed sub-librarians to supply programmes on 3 1/2 or 5 1/4 80 track floppy disks. If anybody is using 5 1/4 40 track disks they can still send to me for programmes.

The libguide 1 cartridge covering DASM_XDR, Amoncpy, Cassfile and programme cartridges 1 to 12 can be obtained by sending a cartridge with a minimum of 218 formatted sectors, a self addressed Jiffy bag with return postage and a cheque for £1.50 made out to IQLUG to any sub librarian. They will also hold copies of the second library guide which is available under the same conditions but it cannot be guaranteed to contain all the programmes currently available. Printed library guides can be obtained from Brian Pain. Your sub-librarian will be able to advise you of any recent additions and currently has details on Microdrive of all programmes up to library 18. He will, if requested provide a free update and details of periodic updates will be published in QUANTA. Any further additions to the library will also be available at the Milton Keynes workshop weekend in November.

Overseas members without a sub-librarian in their country can obtain both library guides direct from myself. If they require cartridges to be supplied they should add $2.00 for each cartridge and this will also cover postage and packing costs. Where currency problems apply I recommend that payment be made by International GIRO transfer direct to the library account. The account number is 35 032 4905 and your order can be included in the message section of the transfer slip. British members requiring cartridges to be supplied may also use this method by filling in a Transcash form at any Post Office or a transfer slip if they hold a GIRO account.

It is no longer necessary to make out individual cheques for each option but you should list the options you are paying for on the back of the cheque. Sub-librarians will normally try to get your cartridges to you within 7-10 days if everything is in order and I know at least one attempts a return of post service. They do not have facilities to debit credit card accounts or accept postage stamps in payment. If there is a delay in your programmes arriving telephone your sub-librarian and if after that you still have a complaint let me know and I will investigate. I would however stress that they are all unpaid volunteers, trying to give a good service and if your order arrives without return postage, with unsigned cheques, or with insufficient cartridge capacity for the programmes you have requested your order is likely to be held up.

Recent additions to the library include a very good selection of games from Phillip Murphy plus his "Artist" programme on library 16 (£1.00 option) and Ron Dwight's suite of SuperBASIC extensions on library 17 & 18 (£4.00 total option, currently advertised commercially at a much higher price) and our first Abacus programme.

In the pipeline are several programmes including updates to Valley and Worm. The Worm updates arrived on six very full cartridges which we hope to reduce with Ron Dwight's screen compression programme.

Brief details of sub-librarians are listed below:-

DISK LIBRARIANS

James Methley,
Tel. 0417 762938.
(5 ¼ 80 track)

Jerry Tressman,
Tel: 04215 63129
(3 ½ 80 track)

CARTRIDGE LIBRARIANS

Alex Robertson,
Tel. 0270 257758

Dennis Croombs,
Tel: 0252 515906

Mark Cumming,
(Birmingham Group)

Stephen Hewitt,
Tel: 0705375360

Martin Grew,
Tel: 0977 610903

OVERSEAS LIBRARIANS

Switzerland,
Wolfgang Göller,
Rosenstr. 21,
CH 8105 Regensdorf.

Finland,
Ron Dwight,
Suvikuja 3B14,
02120 Espoo 12.

Belgium,
Peter Jones,
Ave. G. Mullie 6,
Brussels.

QUALITY CONTROL (For new submissions only).

Brian Davies,
72, Wharncliffe Street,
Hull, HU5 3LY.
Tel: 0482 43700.

HEAD LIBRARIAN

Syd Day,
241, Highfield Road,
Romford, RM5 3AW.
Tel: 0708 27272.

OPD/QL FILE TRANSFER

Some months ago you published in QUANTA a letter from Table Singh who has an ICL OPD at work and a QL at home. I am in a similar position, but because I work for ICL I have been in a position to get the information needed to enable me to do something about it.

What I have done is write myself a new device driver (Using a device type of OPD instead of MDV) which I can load into the QL. This then allows me to read/write the OPD tapes exactly as if they were normal QL tapes. I also have a simple-to-use

copy programme which utilises this device driver for copying tapes between OPD and QL formats.

I have not decided yet whether to make this code generally available, and so would be interested in seeing what interest there might be from QUANTA members. If anyone would like to know more, they can contact me and I will send them a copy of the specification. I have not decided whether to charge for the software yet, but if I do it will be something along the lines of £5 if a cartridge is provided, £7 if I have to provide it.

The software should run on any ROM, but it has currently only been tested on the JM and JS ROMS. If anyone is interested in trying it on a different ROM, then the first person to contact me for any particular version can definitely have the software free (but I don't guarantee it will work!).

On a completely different subject, I would like to know if anyone has produced a print driver (which can be used to produce screen dumps from within BASIC, or can print Easel screens) which will work with an Oki Microline 84 or an Oki Microline 82A printer.

Dave Walker,
22, Kimptons Mead,
Potters Bar,
HERTS. EN6 3HZ.
Tel: (0707) 52791

BIORHYTHMS USING EASEL, AND A CLOCK ON QUILL

Edition four of QLUB, gave a few hints for using some of the mathematical functions in EASEL to produce a better presentation of figures etc aside from the simple bar graphs.

Using the "Sin" function, I have, after a time of experiment and late night coffee!, found a method and formula which will enable you to produce graphs representing your very own biorhythms.

What are Biorhythms you ask? Biorhythms are a set of regular cycles which are said to occur in everyone indicating your Emotional, Physical and Mental states, showing them to be Active, Passive or Critical. Active and Passive are self-explanatory, whilst the critical days are when things might not go quite as planned .

There is quite a lot of evidence on record showing, for example, World records in athletics being set whilst the athlete concerned was at a "physical peak" ie, top of the physical active curve. Also, various disasters which have been caused by one person, have shown him or her to be on a critical day on one or more of their cycles.

The following steps should result in a graph showing all of your three Biorhythms over a period of just over a month.

1)   First, you must calculate your age in days. (The day you were born is "day 1" - REMEMBER LEAP YEARS).

2)   Divide this total by the following:

23. Remainder = Day of current Physical Cycle.
28. Remainder = Day of current Emotional Cycle.
33. Remainder = Day of current Intellectual Cycle.

3)   Change Easel to Format 3, and "TAB" the cursor so that there are 45 cells on display.

4)   Enter the following:

a)   x = (cell - (aa-bb+2))*2*Pi()/aa)   Three
b)   c = Sin (x))   times.

where, aa = 23 (For bb = Your Remainder(from above)) Physical. cc = p

aa = 28)   For
bb = Your Remainder.) Emotional.
cc = e)

aa = 33)   For
bb = Your Remainder.) Intellectual.
cc = i)

5)   Change "Line" for each of p,e and i to 4, 5 & 6.

6)   "Kill" x data, and "view all figures."

7) Finally, label the cells with dates - starting with the first of the month in question, and also move the KEY and label the vertical axis with "Passive -- Active".

I have put one of my charts onto this Microdrive cassette sent to Leon, and if modern science is up to it, you should be able to see something of what they should look like.

The positive area represents Active, the negative area represents Passive, and the crossings of the "0 axis" represents the "critical" days.

As a quickie, I have managed to transfer the clock routines from the Library Cartridge One to the Quill Boot programme and now have a multitasking clock on display whilst using QUILL, which gets a lot of use.

The Boot programme has to be altered to something like the following:
```
     1 CLEAR
     2 WINDOW 512,256,0,0:CSIZE 2,1:CLS
     3 AT 2,11:PRINT "LOADING QL QUILL"
     4 AT 4,13:PRINT "version 2.00"
     5 AT 6,4:PRINT "copyright 1984 PSION SYSTEMS"
     6 AT 8,12:PRINT 'word processor"
     7 CLOSE #1:CLOSE #2:WINDOW #0,480,30,0,226 <This sets the best position.
     8 CLS#0
     9 get_status of the clock.
    10 PAPER#0,2:CLS#0:PAPER#0,0
```

```
   11 DLINE 16 TO

    12 CLEAR
    13 EXEC mdv1_clock_exec
    14 EXEC_W mdv1_quill
    15 OPEN #1,scr:OPEN #2,scr
    16 DEFine PROCedure get_date
    17     CLS#0
    18     PRINT #0,"Please input the date and time in the form of numbers and
press ENTER"
    19     PRINT #0,"Year","month","day","hours","minutes", "seconds"
    20     INPUT #0,year,month,day,hours,minutes,seconds
    21     SDATE year,month,day,hours,minutes,seconds
    22 END DEFine get_date
    23 DEFine PROCedure get_status
    24     PRINT #0,"Do you want to reinitialise the clock ? ";
    25     INPUT #0,ans$
    26     IF ans$(1) == "y" THEN
    27       get_date
    28     END IF
    29 END DEFine get_status
```

The "Clock" routines were "borrowed" (?) from Rob Sherrat's "Library cartridge 1 - Boot", and I hope he won't mind them being used thus.

The "DLINE 16 TO" in line 11, is needed as in the unexpanded version of the QL, the length of this new boot programme causes the version 2 of Quill to ask for a cartridge. By deleting those lines only needed once, enough memory is freed and Quill loads as normal.

Note: Obviously, the "clock" exec, has to be copied to the Quill cartridge as well.

It should also be easy to use this procedure to put a clock on any of the other programmes which have a heavy use.

Finally, has anybody had the Silicon Express internal RAM conversion done yet? Having just bought disks, I miss the RAMPACK and all that lovely RAM I had on previously, the above sounds like a great idea.

Ken Huber,
36, Hayes End Drive,
Hayes End,
Middlesex. UB4 8HD

/* I'm afraid I couldn't do anything with Ken's chart - I don't have a suitable printer.

I fail to see the relevance of the date of birth to the biorhythm cycle - surely the date of conception makes more sense. Why should the function be sinusoidal? I don't think they have stood up to serious scientific investigation, anyway. LFH */

BASIC MISCONCEPTIONS

From exchanges with various correspondents and our own library programmes I see quite a lot of other people's code and although it is early in the learning process for SuperBASIC, on which at best we have had only a little more than a years practice, I think it "may be instructive to highlight some of the misconceptions evidenced in the code I have seen.

In most instances it is not that the code will not function but that it fails to take advantage of the structures of SuperBASIC. The other factor which never fails to surprise me is that no matter how poorly written a programme may be there is quite likely to be a useful feature or technique of which I was not aware.

So I am sure that we all have a lot to learn.

Most of the misconceptions arise from copying less friendly BASICs e.g.

a)   100 a$ = INKEY$: if a$ = " " THEN GO TO 100
b)   200 IF a$ = "y" OR a$ = "Y" THEN ....
c)   300 FOR i = 1 TO a : name$(i) = temp$(i) : NEXT i
d)   400 FOR I = 1 TO a : IF i=b THEN ....
      410 NEXT i
e)   500 PRINT   " Title of Page "
f)   600 PRINT "Any key to continue" : dummy$ = INKEYS(-1)
g)   700 INPUT "A for another Q to quit " ; an$
      710 IF an$ = "a" or an$ = "A" THEN RUN
      720 IF an$ = "q" or an$ = "Q" THEN STOP
      730 GO TO 700
h)   800 number=lin_cost : NUMFORM number : PRINT num$

The optimum SuperBASIC versions, not always adequately documented in the Manual, are, I suggest:-

a)   100 a$ = INKEY$(-1)
b)   200 IF a$ == "Y" : ……
c)   300 FOR i = 1 TO a : name$(i) = temp$(i)
d)   400 FOR i = 1 TO a : IF i=b : …..
e)   500 PRINT TO 25 ; "Title of Page"
f)   600 PRINT "Any key to continue" : PAUSE
g)   700 PRINT "A for another, Q to quit " :Acc$ = "aq"
      710 REPeat key : an$ =INKEY$(-1) : a = an$ INSTR acc$: IF an$ INSTR acc$: IF a : EXIT key
      720 IF a = 1 : RUN : ELSE : LRUN dev$ & "boot"
h)   800 NUMFORM(lin_cost) : PRINT num$

The benefit of the SuperBASIC version is, I think, self evident.

Items c) and d) show a misunderstanding of the short form of the FOR loop. When any statement follows on the same line as the FOR statement the line will be operated until the loop counter has reached its limit before operating any code on a following line. The NEXT statement is therefore redundant. It appears that having initiated a loop using a particular variable counter it is possible to insert any number of NEXT i's or END FOR i's without generating an error but they serve no purpose when the loop has been completed. When using the long form of the FOR loop the END FOR form should always

be used to denote the end of a loop. NEXT should only be used if the counter is conditionally incremented within the loop.

The use of THEN is always unnecessary but with some it is a case of "old habits die hard" and some choose to keep it for aesthetic reasons. Personally, favouring "compact code", I omit every redundant feature including spaces frequently. I also use single quotes as they are interchangeable with double quotes (except when you wish to include single quotes in a string) and it is quicker to type, needing no shift.

Item g) I have used to reinforce my recommendation that it is bad practice in virtually all cases to throw the user back into the operating system. Every attempt should be made to stay in programme mode so that the uninitiated is never left to his/her own devices. It also shows a valuable short form of the REPeat structure. Remember that any code following a REPeat statement on the same line will cause it to be treated as a short form, even a REMark, and there must therefore be a functional EXIT statement if the programme is to progress further. Note also that the INSTR comparison traps upper and lower case for a given character due to the type of comparison it uses (Manual 12/84 Concepts p 52). This can be a disadvantage at times so it is sometimes necessary to choose valid keys carefully or make a CODE check instead.

Item h) demonstrates that a parameter to be passed to a PROcedure, in this case number formatting say, can be expressed as the actual current variable value, there is no benefit in assigning it to the name used in the PROcedure definition, and provided it is expressed in brackets in the call statement its value will not change due to any operation in the PROcedure (as Capt. Fieldson pointed out to me).

There seems to be a short form of the DEFine FuNction.

If the code follows on the same line it does not require an END DEFine thus:-

1000 DEFine FuNction SGN@ : IF a 0 : RETurn -1 : ELSE : RETurn a 0

I hope the above examples lead to better code on library programmes of the future. I am sure the standard is improving but there is a long way to go.

On a different topic; I notice a number of items in QUANTA suggesting undocumented methods of causing Quill to send codes to the printer by using a translate to produce the ESCape code or using characters with a code higher than 127. These methods have their merits and achieve what the writers wish, but it should not be overlooked that they are contrary to the philosophy on which Quill is based. The penalty is that text prepared in this manner is no longer "portable", i.e. it cannot be passed on cartridge or disk to other Quill users without the risk of getting a garbled printout due to the recipient using a different printer, and/or having his Install file differently configured. So don't get carried away with your enthusiasm for making your printer do a jig and don't send Leon files with "queer" characters if you wish to have a readable magazine.

P.S. One line addresses could save a whole page of QUANTA : Compact text Rules ok.

John Tanner,
43, Northumbria Drive,
Bristol BS9 4HL.
(0272) 623401

/* I don't mind funny codes in the middle of text sent to me; all files go through a C programme that cleans them up before I transfer them to my CP/M system for editing with Wordstar. LFH */

BEGINNERS' SECTION

The absence of a beginners section in recent issues prompts me to put my code where my mouth is, so to speak.

As others have indicated, the first requirement of any would-be programmer is an effective input routine. It is possible to use an INPUT statement and check the nature of the input against what is required or allowed in any particular circumstance but firstly the checks are much more clumsy to construct and secondly it prevents any direct control on the length of the input string and always requires the extra key press of the ENTER key.

In practice it is much more satisfactory to establish the valid input and only enable valid keys to function. This is readily achieved with the INKEY$ form of input. The requirement of an input routine includes:-

1) A screen prompt.
2) Usually, but not always, a cursor to indicate where the input will occur.
3) A means of enabling only relevant keys.
4) Control of the maximum and minimum number of characters to be accepted.
5) Assignment of the input to a string or numeric variable as appropriate

In practically all business programmes it will also be necessary to create a string array containing the prompts and the responses to include in a hard copy output routine and also to provide a default response, often the response from a previous run of the programme element.

A suitable routine for the needs of a particular programme can usually be written quite briefly but it is preferable to write a routine which has the widest possible area of application so that the same routine can be used in virtually any programme.

We will start at the sharp end with the procedure used to receive each and every key stroke required in the programme. There is no need for any other INKEY$ statement no matter how long or varied the programme requirement. The form I recommend is:-

```
DEFine PROCedure KEYINPUT(po$)
REPeat key
Z$ = INKEY$(-1) : pos=z$ INSTR po$ : if pos : RETurn : ELSE BEEP 2000,20
END REPeat key
END DEFine KEYINPUT
```

The procedure is called with a string parameter which must contain all permissible keys. It waits for a key to be pressed, checks whether the key is a valid character, responds with a beep if not and returns the character in variable z$.

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REVIEW OF COSMOS

This is an astronomy programme published by TALENT, currently available by mail order only, at £14.95.

The programme is almost totally written in SuperBASIC by G. F. Cornwell. The programme takes 3 minutes to load from Microdrive and just over 2 from disk. The programme has a spectacular title screen by the same person who produced the three demo screens for GRAPHIQL, and the screen looks as if it has been produced with that programme.

The programme is fully menu-driven and only single-key presses are ever required. The programme plots the position and relative brightness (by means of more and different coloured pixels) of just over 500 stars plus the planets, sun, moon and Halley's comet for any location and time. The plot may be on a panoramic map or just one magnified part of this. You may use a cursor to mark one of the plotted points and the identification, position, constellation, declination and several other points of interest about the object are presented. The cursor is absolutely infuriating as it consists of a circle and the object you point out must be absolutely central within it otherwise it searches for the nearest object which gives the same result but takes at least 5 times as long. On a TV set exact centralisation to a pixel is impossible. You may also directly enquire about the planets, sun, moon and the stars. Unfortunately the information about the stars is only available by entering their relative brightness on a scale 1 to 502.

One may also call up a graphical representation of the inner or outer solar system for the time that you set. Various planets also have simple graphics related to them when you enquire about them either directly or using the main star map/cursor combination. These include the position of Jupiter's moons, Saturn's rings, phases of the moon etc.

The instruction "book" consists of two photocopied sheets of paper but then I did obtain it two weeks before at least one magazine said it would be available. There are, in the right conditions, over 1000 stars visible to the naked eye so everything you see will not be on this map. You are seeing a static time on the map - I would have thought it not too difficult to programme the choice of either a static or dynamic display, say, in hours for the solar system, and days for the star chart. It is also very disappointing that Halley's comet is not displayed on the solar system charts but only the star map, and that the constellations cannot be outlined on command.

One improvement and one backward step from TALENT itself. The first is that slightly different displays are used depending on whether you press Fl or F2 on startup. F2 is not only suitable for a TV but also for a standard (non-QL) monitor. GRAPHIQL falls down badly on this point. The backward deplorable step is that unlike all previous Talent programmes, that even tell you how to do it, it is difficult to convert the programme to load from disk with the master copy of course being checked in mdv2. It can be done after tedious work using either an editor or Talent's Cartridge Doctor Patch facility, but is there any need to be so awkward?

In summary: a useful, good and easy to use programme that could do with being put through Simon Goodwin's SuperBASIC compiler. It could have been a really great programme with a little more effort. I think that Talent should have demanded that extra effort from the programmer for the current price of the programme, although it is better than many programmes that cost only a little less and some which cost more.

I have shown this programme at the local QUANTA meeting in Birmingham and, of those interested in it, seemed to be in a distinct minority as regards my views on the pricing as stated above. Most people feel it is well worth the money and would give it a 5 star rather than 4 star rating.

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REVIEW OF DIALOG HOME ACCOUNTS MANAGER

If you write more than ten cheques a month, ever make a mistake entering data, and have many standing orders don't buy it. For sale Dialog Home Accounts £10 (half price).

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SIMPLE CASSETTE INTERFACE

When the QL first came out a few members were interested in a cassette interface for the QL. If anyone is still interested, the November issue of Electronics and Wireless World has the circuit of a simple RS-232-compatible cassette interface on page 74. Unlike most such interfaces, this one requires some mods. to be made to the recorder, as a direct connection has to be made to the tape-head, giving saturation recording. It is claimed that it works at up to 4800 baud.

Leon Heller

ICE BY EIDERSOFT

ICE stands for "Icon Controlled Environment" and is supplied in the form of a ROM cartridge, so those of us with memories of the Sinclair "Dongle" will find it very nostalgic. I've been using ICE for a week or so now and thought a few comments might be of interest. It should be mentioned that as yet I haven't received the final version of the manual, but to Eidersoft's credit they say Mailmerge software will be supplied with the replacement manual and even gave me a 7 pence stamp to return the Microdrive cartridge which accompanies the ROM package.

On power-up the ICE front end is presented and then the user need only touch the cursor keys and space bar (or better still, a mouse) to perform a wide range of operations. The options available initially are to get a directory of a Microdrive, disk or ram-disk, to set up the date and time, get system information (free memory, Qdos version and number of jobs running) or format a medium. These operations are selected by moving a small pointer over an icon and "clicking" the space bar, whereupon a directory is read to the screen or a menu is pulled-up displaying further options or just making sure you really want to go through with the operation selected. Calculator and calendar functions are also included, I find the calculator slow to use and the calendar would be much more useful if it were available when using Quill, Archive etc.

Before using ram-disk a utility has to be loaded from Microdrive which installs ram-disks. Having done this you can then return to ICE and format the disks, specifying the size in multiples of 512 bytes. The same utility includes a task generator which builds a task file of programmes which can (memory permitting) all be loaded and switched between at will. It's a pity these operations could not be performed directly from ICE, but I suppose with only 16k to work with its a lot to ask. Once a directory is obtained files are displayed as icons which identify the type of file concerned. These seem to be derived from the extension and are very well presented, being displayed in pages of 12 files each. Stepping between pages is achieved by clicking a left or right arrow at the top of the screen. A programme is selected by clicking the icon once for a copy, delete, rename, or view (printing to screen or printer). Two clicks will LRUN or EXEC a programme. Clicking QUIT gets you out of ICE to SuperBASIC, getting back again is just a matter of typing ICE.

For anyone waiting for a GEM-type package for the QL, I'm afraid this isn't it. Having said that, ICE does provide a very professional-looking front end and greatly reduces the amount of typing involved in housekeeping. I've just ordered a 512k memory expansion and when I have this the ram-disk and task generation facilities should really come into their own.
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PCML Q+ DISK INTERFACE REVIEW

PCML recently lent me one of their Q+ disk interfaces, with 256K RAM. The RAM is an optional extra. The unit is fitted into the expansion port at the left of the machine. The protruding portion is fitted with a ribbed black plastic box matching the QL. All the chips were socketed. Tony Tebby's disk software (version 1.14) with a RAMdisk facility, is contained in an on-board EPROM. Most of the QL Toolkit . functions are available, and up to eight RAMdisks may be used. Before use, a RAMdisk must be formatted with a command like format ram1_200 to create a RAMdisk of 200 512 byte sectors (100K). A RAMdisk is a portion of RAM that behaves just like a disk, in that files may be saved to it and loaded from it, very much faster than from disk. Of course, the files have to be loaded into RAMdisk initially, but from then on many operations involving files are speeded up considerably.

The documentation consisted of 10 pages of A4, with details of the installation of the interface, fitting the disk drives, and testing the unit. Full details of the Toolkit functions are provided. It would have been helpful if some tips on the use of the RAMdisk had been provided.

The additional 256K of RAM was very useful. Compilations using the Metacomco/Lattice QL C compiler were speeded up considerably, and having the editor in RAMdisk made the process of software development much slicker. The RAMdisk would also be very useful to users who only have one disk drive, as files can be transferred very easily between disks by first copying them to RAMdisk.

The cost of the interface and RAM is £240. QUANTA members ordering the unit get an £80 voucher for the "Xpert" accounting package (normally £179) and a £30 voucher for the ICE GEN-like front-end.

PCML's address is:- PCML Ltd., Royal Mills, Esher, Surrey KT10 8AS.
Tel: (0372) 67282/68631

Leon Heller

PSION 2.3 SOFTWARE

This not a review of all these programmes, merely a note that they do exist and are now being sold with new stocks of JS QLs. I am fortunately in possession of these items as I was eventually given a new QL by my supplier as I had considerable difficulty with my previous model. The main differences seem to be in the fact that memory is released when the programme is quit and various patches previously available are now standard. This last relates mainly to ARCHIVE, and QUILL to a lesser extent. According to QL User in their September issue there are other differences which I have not found namely a facility to load and save via the network and a much larger memory available in QUILL.

I cannot find any difference in the amount of text held in RAM with QUILL before a def tmp is set up (approximately 10K). There is a difference using disks with QUILL which I have been trying to solve for some time. I have a single disk drive and when booting in QUILL 2.00 from start-up a def tmp is set up immediately as the disk interface (CST) only informs QDOS that disks are connected so buffer space is set aside for 2 disks and 2 Microdrives when booting from start-up. I eventually found that if you go in via another system boot and choose from a menu the QUILL boot programme QDOS forgets the original buffers and only sets up those necessary i.e. one disk and two Microdrives and so QUILL memory does not cross a threshold and no deftmp is set up for several pages. None of this is necessary with QUILL 2.3; that is it will boot straight from disk without an in-between SuperBASIC programme without setting up def_tmp. Obviously I do not know what happens with two disks.

The above may solve Tony Johnson's problem in October QUANTA with removing disks from flp2 while in QUILL. I had also contacted PSION SUPPORT who denied version 2.3 of QUILL existed and that there was any solution to my problem that I outlined above and for which there are two solutions as I have outlined. Another way to solve Mr. Johnson's problem is to use config_bas to set up the normal data default to be flp1 . If he does this then def tmp is set up on flp1 and you have to remember to put in flp2_ at the start of the name of the document to save and load, which is not a lot of hassle.

Version 2.01 and above of ARCHIVE will also cure his backup problems and he should pester PSION for an update. ARCHIVE 2.2 (I understand now replaced by ARCHDEV) special version with my RUNTIME and ARCHIVE 2.3 have most bugs removed, simple graphics with sedit, 254 character fields definable in sedit and a machine code interface facility. I hear that ARCHIVE 2.35 is already in existence. Version 2.2 and 2.3 will not close an opened database of 1150 records ordered on four fields. The database is also lost as all the end information is lost, but is probably recoverable using Chas's programme. I am not sure if 2.3 cures this but I am still hoping for a patched programme on Microdrive from PSION SUPPORT.

None of the facilities of 2.3 versions are documented in the manual which is still dated 12/84. However the rest of the manual is also dated 12/84 and is updated with an index. None of the new BASIC keywords are documented.

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C USERS' GROUP

With the increasing interest in the C language I feel that there is a need for a C Users' Group. I have decided to form such a group, and a press release went out to everyone on the QUANTA complimentary copy mailing list recently. The main activities of the group will be the production of a bi-monthly newsletter, and the maintenance of a software library. Please send me an SAE if you would like more information.

Leon Heller

FILE ENCRYPTION/DECRYPTION

The following programme written for the QC compiler encrypts a file by Exclusive-OR'ing successive bytes in the file with successive bytes from a string input by the user. Because of the symmetrical property of the XOR operation, the encrypted file can be decrypted by using the same key. The programme is based on one written in RATFOR in the classic Software Tools book by Kernighan and Plauger. It should work with Archive files, so members using Archive for medical records might find it useful.

This type of encryption probably won't defeat the dedicated hacker (try writing a programme to find the key from an encrypted document), or the Crays used at GCHQ Cheltenham (they could probably crack it in a few milliseconds), but it might prove useful to someone. I can't print an encrypted file for you to look at, as bytes can have any value between 0 and 255, which would cause my printer some problems.

```
/*
** crypt - file encryption and decryption
** written by Leon Heller
** version 1.0 - 25/6/85
*/

£include <stdio.h>
main}
    char *in_chan, *out chan;
    char source [12], dest [12], key[64];
    int c, i, keylen;

    /* get source file name and open file */
    printf("Source file: ");
    fflush(stdout);
    gets(source);
```

```
        in_chan = fopen(source, "rb");
        if (in_chan == 0)
            error("File open error");
        /* get destination file name and open file */
        printf("Destination file: ");
        fflush(stdout));
        gets(dest);
        out_chan = fopen(dest, "wb");
        if (out_chan == 0)
            error("File open error");

        /* get key */
        printf("Key: ");
        fflush(stdout);
        gets(key);
        keylen = strlen(key);
        /* get characters, encrypt them, and output them */
        for (i = 0; (c = getc(in_chan)) != EOF; i++)
            putc(c ^ *(key + (i % keylen)), out_chan);

        /* close files and quit */
        fclose(in_chan);
        fclose(out_chan);
}

error ( s )
char *s;{

        puts(s);
        exit(0);
}

gets(s)
char *s;{

        char c;

        while ((c = getchar() ) != "\N")
            *s++ = c;
        *s = "\0";
}
```

Leon Heller

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STOP PRESS

Has anyone managed to get a KDC 5001 printer working satisfactorily with the QL. Mine prints out the 2K buffer's worth and then "freezes up" and I haven't managed to sort out how to overcome this yet. However, it's OK for short letters such as this
.
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